



SEQUENCE LISTING

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<110> MUKAI, Hiroyuki
SAGAWA, Hiroaki
UEMORI, Takashi
YAMAMOTO, Junko
TOMONO, Jun
KOBAYASHI, Eiji
ENOKI, Tatsuji
TAKEDA, Osamu
MIYAKE, Kazue
SATO, Yoshimi
MORIYAMA, Mariko
SAWARAGI, Haruhisa
HAGIYA, Michio
ASADA, Kiyozo
KATO, Ikunoshin

<120> A method for amplification of nucleic acids

<130> MUKAI=1

<140> 09/935,338
<141> 2001-08-23

<150> JP11-076966
<151> 1999-03-19

<150> JP11-370035
<151> 1999-12-27

<150> JP2000-251981
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<150> JP2000-284419
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<150> JP2000-288750
<151> 2000-09-22

<150> JP2001-104191
<151> 2001-04-03

<150> PCT/JP00/01534
<151> 2000-03-14

<160> 290

<170> PatentIn version 3.2

<210> 1
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<220>
<223> Synthetic DNA corresponding to a portion of human transferrin
receptor-encoding sequence used as a template

<400> 1
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 ccttgcatat tctgagcagt ttctttctgt ttttgcgag 99

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 <212> DNA
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<220>
 <223> Designed oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence

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 cagcaactgg gccagcaaag tt 22

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 gcaaaaacag aaagaaactg ct 22

<210> 4
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<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotide 21 is ribonucleotide-other nucleotides are deoxyribonucleotides"

<400> 4
 cagcaactgg gccagcaaag ut 22

<210> 5
 <211> 22
 <212> DNA
 <213> Artificial

<220>
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gcaaaaacag aaagaaactg ct

22

<210> 6
<211> 22
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<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotide 22 is ribonucleotide-other nucleotides are deoxyribonucleotides"

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cagcaactgg gccagcaaag tu

22

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<211> 22
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<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 7
gcaaaaacag aaagaaactg cu

22

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<211> 22
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<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

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22

<210> 9
<211> 22
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<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 9
gcaaaaacag aaagaaactg cu 22

<210> 10
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 19 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 10
cagcaactgg gccagcaaag tt 22

<210> 11
<211> 22
<212> DNA
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<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 19 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 11
gcaaaaacag aaagaaacug ct 22

<210> 12
<211> 26
<212> DNA
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<220>
<223> Designed oligonucleotide used as a probe for detecting an amplified portion of human transferrin receptor-encoding sequence

<400> 12
tgctttccct ttccttgcat attctg 26

<210> 13
<211> 25
<212> DNA
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<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 upper(2)NN to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 13
attgcttaat cagtgaggca cctau 25

<210> 14
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 lower NN to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 14
gataacactg cggccaactt actuc 25

<210> 15
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 15
actggcgaac tacttactct agcuu 25

<210> 16
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 lower 542 to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 16
agtcaccaga aaagcatctt acggau` 26

<210> 17
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 17
 gctcatgaga caataaccct gataa

25

<210> 18
 <211> 25
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as pUC19 upper 150 to
 amplify a portion of plasmid pUC19. "nucleotides 23 to 25 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 18
 ggtgtcacgc tcgtcgtttg gtaug

25

<210> 19
 <211> 25
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as pUC19
 lower NN to amplify a portion of plasmid pUC19. "nucleotides 23
 to 25 are ribonucleotides-other nucleotides are
 deoxyribonucleotides"

<400> 19
 gataacactg cggccaactt acuuc

25

<210> 20
 <211> 25
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as pUC19
 upper 249 to amplify a portion of plasmid pUC19. "nucleotides 23
 to 25 are ribonucleotides-other nucleotides are
 deoxyribonucleotides"

<400> 20
 cgcctccatc cagtctatta atugu

25

<210> 21
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 human transferrin receptor-encoding sequence. "nucleotides 20 to
 22 are ribonucleotides-other nucleotides are
 deoxyribonucleotides"

<400> 21
ctgattgaga ggattcctga gu 22

<210> 22
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 22
tagggagaga ggaagtgata cu 22

<210> 23
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 upper(2)NN to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 23
attgcttaat cagtgaggca cctau 25

<210> 24
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 upper(2)NN to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 24
attgcttaat cagtgaggca cctaa 25

<210> 25
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 upper(2)NN to amplify a portion of plasmid pUC19. "nucleotides 24

to 25 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 25
attgcttaat cagtgaggca cctac 25

<210> 26
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19
upper(2)NN to amplify a portion of plasmid pUC19. "nucleotides 24
to 25 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 26
attgcttaat cagtgaggca cctag 25

<210> 27
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
human transferrin receptor-encoding sequence. "nucleotides 21 to
22 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 27
ctgattgaga ggattcctga gu 22

<210> 28
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
human transferrin receptor-encoding sequence. "nucleotides 21 to
22 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 28
tagggagaga ggaagtgata cu 22

<210> 29
<211> 24
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as MF2N3(24) to amplify a portion of plasmid pUC19-249 or plasmid pUC19-911. "nucleotides 22 to 24 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 29
gctgcaaggc gattaagttg ggua 24

<210> 30
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as MR1N3(24) to amplify a portion of plasmid pUC19-249 or plasmid pUC19-911. "nucleotides 22 to 24 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 30
ctttatgctt ccggctcgta tguu 24

<210> 31
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as pUC19 upper 249 to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 31
cgctccatc cagtctatta attgu 25

<210> 32
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as pUC19 upper 150 to amplify a portion of plasmid pUC19

<400> 32
ggtgtcacgc tcgtcgtttg gtatg 25

<210> 33
<211> 25
<212> DNA
<213> Artificial

<220>

<223> Designed oligonucleotide primer designated as pUC19 upper 249 to amplify a portion of plasmid pUC19

<400> 33
cgcctccatc cagtctatta attgt 25

<210> 34
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as pUC19 lower NN to amplify a portion of plasmid pUC19

<400> 34
gataacactg cggccaactt acttc 25

<210> 35
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of plasmid pUC19. "nucleotides 28 to 30 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 35
ggatgtgctg caaggcgatt aagttgggua 30

<210> 36
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as MR1N3 to amplify a portion of plasmid pUC19. "nucleotides 28 to 30 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 36
tttacacttt atgcttccgg ctcgatatguu 30

<210> 37
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of plasmid pUC19

<400> 37

ggatgtgctg caaggcgatt aagttgggta

30

<210> 38
<211> 30
<212> DNA
<213> Artificial

<220>

<223> Designed oligonucleotide primer designated as MR1N3 to amplify a portion of plasmid pUC19

<400> 38
tttacacttt atgcttccgg ctcgtatggt

30

<210> 39
<211> 30
<212> DNA
<213> Artificial

<220>

<223> Synthetic RNA used as a probe for detecting an amplified portion of plasmid pUC19

<400> 39
ugauccecca uguugugcaa aaaagcgguu

30

<210> 40
<211> 25
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as pUC19 upper 150 to amplify a portion of plasmid pUC19. "nucleotides 24 to 25 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 40
ggtgtcacgc tcgtcgtttg gtaug

25

<210> 41
<211> 30
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as MR1N3 to amplify a portion of plasmid pUC19. "nucleotides 28 to 30 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 41
tttacacttt atgcttccgg ctcgtatguu

30

<210> 42
 <211> 17
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as M13M4

 <400> 42
 gttttcccag tcacgac 17

 <210> 43
 <211> 18
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 1-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 16 to 18 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 43
 agttaatgtg gtggcgaa 18

 <210> 44
 <211> 17
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 1-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 15 to 17 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 44
 gactcttcca tctgcca 17

 <210> 45
 <211> 18
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 16 to 18 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 45
 ttcggtatcc tattcccg 18

 <210> 46

<211> 18
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 16 to 18 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 46
 tctctggtca ttgtauua 18

 <210> 47
 <211> 22
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as MCR-F to amplify a
 long DNA fragment

 <400> 47
 ccattcaggc tgcgcaactg tt 22

 <210> 48
 <211> 22
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as MCR-R to amplify a
 long DNA fragment

 <400> 48
 tggcacgaca ggtttcccga ct 22

 <210> 49
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as MF2N3(24)
 to amplify a long DNA fragment. "nucleotides 22 to 24 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 49
 gctgcaaggc gattaagttg ggua 24

 <210> 50
 <211> 24
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as MR1N3(24)
 to amplify a long DNA fragment. "nucleotides 22 to 24 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 50
 ctttatgctt ccggctcgta tguu
 24

<210> 51
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA

<400> 51
 aacaacaaga aactggtttc
 20

<210> 52
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA

<400> 52
 gcaatgcatg acgactgggg
 20

<210> 53
 <211> 17
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA. "nucleotides 16 to 17 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 53
 gttttcccag tcacgac
 17

<210> 54
 <211> 17
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA. "nucleotides 16 to 17 are

ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 54
caggaaacag ctatgac 17

<210> 55
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of
bacteriophage lambda DNA

<400> 55
gtacggtcat catctgacac 20

<210> 56
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of
bacteriophage lambda DNA

<400> 56
gcaatcggca tgttaaacgc 20

<210> 57
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of
bacteriophage lambda DNA

<400> 57
cgccatcctg ggaagactcc 20

<210> 58
<211> 44
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as R1-S1 to amplify a
portion of bacteriophage lambda DNA

<400> 58
tttcacacag gaaacagcta tgacaacaac aagaaactgg tttc 44

<210> 59
 <211> 44
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as R1-A3 to amplify a
 portion of bacteriophage lambda DNA

 <400> 59
 ttccacacag gaaacagcta tgacgcaatg catgacgact gggg 44

 <210> 60
 <211> 62
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as R2-S1 to amplify a
 portion of bacteriophage lambda DNA

 <400> 60
 attgtgagcg gataacaatt tcacacagga aacagctatg acaacaacaa gaaactgggtt 60
 tc 62

 <210> 61
 <211> 62
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as R2-A3 to amplify a
 portion of bacteriophage lambda DNA

 <400> 61
 attgtgagcg gataacaatt tcacacagga aacagctatg acgcaatgca tgacgactgg 60
 gg 62

 <210> 62
 <211> 95
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as R3-S1 to amplify a
 portion of bacteriophage lambda DNA

 <400> 62
 cactttatgc ttccggctcg tatgttgtgt ggaattgtga gcggataaca atttcacaca 60
 ggaaacagct atgacaacaa caagaaactg gtttc 95

<210> 63
 <211> 95
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as R3-A3 to amplify a
 portion of bacteriophage lambda DNA

 <400> 63
 cactttatgc ttccggctcg tatgttgtgt ggaattgtga gcggataaca atttcacaca 60
 ggaaacagct atgacgcaat gcatgacgac tggggg 95

 <210> 64
 <211> 17
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as M13RV-2N
 17mer. "nucleotides 16 to 17 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 64
 caggaaacag ctatgac 17

 <210> 65
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as M13RV-2N
 20mer. "nucleotides 19 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 65
 acacaggaaa cagctatgac 20

 <210> 66
 <211> 70
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 CDC2-related protein kinase PISSLRE gene

 <400> 66
 gagttcgtgt ccgtacaact atttcacaca ggaaacagct atgacccaac aagagcctat 60
 agcttcgctc 70

<210> 67
 <211> 67
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 CDC2-related protein kinase PISSLRE gene

 <400> 67
 tcgaaatcag ccacagcgcc atttcacaca ggaaacagct atgacccgct gtctttgagt 60
 tgtggtg 67

 <210> 68
 <211> 70
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of type ii
 cytoskeletal 11 keratin gene

 <400> 68
 gagttcgtgt ccgtacaact atttcacaca ggaaacagct atgacgctat tctgacatca 60
 ctttccagac 70

 <210> 69
 <211> 66
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of type ii
 cytoskeletal 11 keratin gene

 <400> 69
 tcgaaatcag ccacagcgcc atttcacaca ggaaacagct atgacgaatt ccaactggtgg 60
 cagtag 66

 <210> 70
 <211> 62
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA

 <400> 70
 attgtgagcg gataacaatt tcacacagga aacagctatg acgtacgggc atcatctgac 60
 ac 62

<210> 71
 <211> 62
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA

 <400> 71
 attgtgagcg gataacaatt tcacacagga aacagctatg acatgcgccg cctgaaccac 60
 ca 62

 <210> 72
 <211> 62
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA

 <400> 72
 attgtgagcg gataacaatt tcacacagga aacagctatg acctgctctg ccgcttcacg 60
 ca 62

 <210> 73
 <211> 62
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 bacteriophage lambda DNA

 <400> 73
 attgtgagcg gataacaatt tcacacagga aacagctatg acgcaatcgg catgttaaac 60
 gg 62

 <210> 74
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as MF2N3(24) to
 amplify a portion of plasmid pUC19-249 or plasmid pUC19-911

 <400> 74
 gctgcaaggc gattaagttg ggta 24

<210> 75
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as MR1N3(24) to
 amplify a portion of plasmid pUC19-249 or plasmid pUC19-911

 <400> 75
 ctttatgctt ccggctcgta tggt 24

 <210> 76
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as M13M4-3N
 20mer. "nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 76
 agggttttcc cagtcacgac 20

 <210> 77
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as M13RV-3N
 20mer. "nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 77
 acacaggaaa cagctatgac 20

 <210> 78
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as M13M4-3N
 24mer. "nucleotides 22 to 24 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 78
 cgccagggtt ttcccagtcg cgac 24

 <210> 79

<211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as M13RV-3N 24mer.
 "nucleotides 22 to 24 are ribonucleotides-other nucleotides are
 deoxyribonucleotides"

 <400> 79
 tttcacacag gaaacagcta tgac 24

 <210> 80
 <211> 69
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as 5'ID to amplify a
 portion of cyclin A DNA

 <400> 80
 tcgaaatcag ccacagcgcc atttcacaca ggaaacagct atgacatgtt ttgggagaat 60
 taagtctga 69

 <210> 81
 <211> 69
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as 3'ID to amplify a
 portion of cyclin A DNA

 <400> 81
 gagttcgtgc cgtacaacta tttcacacag gaaacagcta tgacttacag atttagtgtc 60
 tctggtggg 69

 <210> 82
 <211> 16
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as M13RV-2N 16mer.
 "nucleotides 15 to 16 are ribonucleotides-other nucleotides are
 deoxyribonucleotides"

 <400> 82
 aggaaacagc tatgac 16

 <210> 83

<211> 27
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 83
 cagcaactgg gccagcaaag uugagaa 27

 <210> 84
 <211> 27
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 84
 gcaaaaacag aaagaaactg cucagaa 27

 <210> 85
 <211> 26
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 85
 cagcaactgg gccagcaaag uugaga 26

 <210> 86
 <211> 26
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 86
 gcaaaaacag aaagaaactg cucaga 26

<210> 87
 <211> 25
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 87
 cagcaactgg gccagcaaag uugag 25

 <210> 88
 <211> 25
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 88
 gcaaaaacag aaagaaactg cucag 25

 <210> 89
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 89
 cagcaactgg gccagcaaag uuga 24

 <210> 90
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 90

gcaaaaacag aaagaaactg cuca

24

<210> 91
<211> 23
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 91
cagcaactgg gccagcaaag uug

23

<210> 92
<211> 23
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 92
gcaaaaacag aaagaaactg cuc

23

<210> 93
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 93
cagcaactgg gccagcaaag uu

22

<210> 94
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence. "nucleotides 21 to 22 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 94
gcaaaaacag aaagaaactg cu 22

<210> 95
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence

<400> 95
caacttcaag gtttctgcc a gc 22

<210> 96
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of human transferrin receptor-encoding sequence

<400> 96
aatagtccaa gtagctagag c 21

<210> 97
<211> 20
<212> DNA
<213> Artificial

<220>
<223> PCR primer BsuII-3 for cloning a gene encoding a polypeptide having a RNaseHII activity from Bacillus caldotenax

<220>
<221> misc_feature
<222> (15)..(15)
<223> n is a, c, g, or t

<400> 97
gtcgccagcg cagtnathyt 20

<210> 98
<211> 20
<212> DNA
<213> Artificial

<220>
<223> PCR primer BsuII-6 for cloning a gene encoding a polypeptide having a RNaseHII activity from Bacillus caldotenax

<220>
 <221> misc_feature
 <222> (18)..(18)
 <223> n is a, c, g, or t

 <400> 98
 cggtcacctg tcacyttngc 20

 <210> 99
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer RNII-S1 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Bacillus caldotenax

 <400> 99
 cgcgcttttc cggcgtcagc 20

 <210> 100
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer RNII-S2 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Bacillus caldotenax

 <400> 100
 acggcgcacg cttcaatttg 20

 <210> 101
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer RNII-S5 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Bacillus caldotenax

 <400> 101
 acgcctattt gccggggcctt 20

 <210> 102
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer RNII-S6 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Bacillus caldotenax

<400> 102
atgaccgacg cagcggcgat 20

<210> 103
<211> 39
<212> DNA
<213> Artificial

<220>
<223> PCR primer RNII-Nde for cloning a gene encoding a polypeptide
having a RNaseHII activity from Bacillus caldotenax

<400> 103
tagaagaggg agaggcatat gaagcggat acggtgaaa 39

<210> 104
<211> 780
<212> DNA
<213> Bucillus caldotenax

<400> 104
atgaagcggg atacgggtgaa agacattgaa gcgctgcttc cgaagcttgg cgcggaacgac 60
ccgcgctggg agatgctgag gcaggatgag cgaaaaagcg tgcaggcgct tcttgcccgt 120
tttgaaaggc agaaagcgcg ccggcacgcc atcgagcagc ggtgggaaga actaatgcgt 180
tatgagaggg aactatacgc cgctggcggt agacggatcg ccggcattga tgaggccggg 240
cgcgccccgc tggccggccc ggtcgctgcc gccgcgggtca tcttgccgaa agacgcctat 300
ttgcccgggc ttgacgactc gaagcggctg acgcccggaaa agcgcgaggc attgtttgag 360
caaattgaag cgtgcccgt cgccatcggc atcggcacg tcagcgcggc ggagatcgat 420
gaaaggaata ttacgaagc gacaaggcaa gcgatggcga aagcgggtgaa cgccctttcc 480
ccgccgctg aacatttget tgttgatgag atggcgggtg cgtgcccact gccgcaacag 540
cgcccataa aaggagacgc caacagcgct tcaatcgccg ctgcgtcggg catcgccaaa 600
gtgacgcgag accggtggat gaaagaactg gatcgccgct atccacaata cgggttcgag 660
cgccatattg gctacggaac gccggaacat ttcgaggcga tccgccccta cggcggttacg 720
cctgagcacc gtcgttcggt cgcaccgggtg agggaggtgc tgaaggcgag cgagcagctc 780

<210> 105
<211> 260
<212> PRT
<213> Bucillus caldotenax

<400> 105

Met Lys Arg Tyr Thr Val Lys Asp Ile Glu Ala Leu Leu Pro Lys Leu
 1 5 10 15
 Gly Ala Asp Asp Pro Arg Trp Glu Met Leu Arg Gln Asp Glu Arg Lys
 20 25 30
 Ser Val Gln Ala Leu Leu Ala Arg Phe Glu Arg Gln Lys Ala Arg Arg
 35 40 45
 His Ala Ile Glu Gln Arg Trp Glu Glu Leu Met Arg Tyr Glu Arg Glu
 50 55 60
 Leu Tyr Ala Ala Gly Val Arg Arg Ile Ala Gly Ile Asp Glu Ala Gly
 65 70 75 80
 Arg Gly Pro Leu Ala Gly Pro Val Val Ala Ala Ala Val Ile Leu Pro
 85 90 95
 Lys Asp Ala Tyr Leu Pro Gly Leu Asp Asp Ser Lys Arg Leu Thr Pro
 100 105 110
 Glu Lys Arg Glu Ala Leu Phe Ala Gln Ile Glu Ala Cys Ala Val Ala
 115 120 125
 Ile Gly Ile Gly Ile Val Ser Ala Ala Glu Ile Asp Glu Arg Asn Ile
 130 135 140
 Tyr Glu Ala Thr Arg Gln Ala Met Ala Lys Ala Val Asn Ala Leu Ser
 145 150 155 160
 Pro Pro Pro Glu His Leu Leu Val Asp Ala Met Ala Val Pro Cys Pro
 165 170 175
 Leu Pro Gln Gln Arg Leu Ile Lys Gly Asp Ala Asn Ser Ala Ser Ile
 180 185 190
 Ala Ala Ala Ser Val Ile Ala Lys Val Thr Arg Asp Arg Trp Met Lys
 195 200 205
 Glu Leu Asp Arg Arg Tyr Pro Gln Tyr Gly Phe Ala Arg His Met Gly
 210 215 220
 Tyr Gly Thr Pro Glu His Phe Glu Ala Ile Arg Arg Tyr Gly Val Thr
 225 230 235 240

Pro Glu His Arg Arg Ser Phe Ala Pro Val Arg Glu Val Leu Lys Ala
245 250 255

Ser Glu Gln Leu
260

<210> 106
<211> 20
<212> DNA
<213> Artificial

<220>
<223> PCR primer BsuIII-1 for cloning a gene encoding a polypeptide
having a RNaseHIII activity from Bacillus caldotenax

<400> 106
ggtaaggtct tggttcargg 20

<210> 107
<211> 20
<212> DNA
<213> Artificial

<220>
<223> PCR primer BsuIII-3 for cloning a gene encoding a polypeptide
having a RNaseHIII activity from Bacillus caldotenax

<400> 107
ggaaccggag attayttygg 20

<210> 108
<211> 20
<212> DNA
<213> Artificial

<220>
<223> PCR primer BsuIII-6 for cloning a gene encoding a polypeptide
having a RNaseHIII activity from Bacillus caldotenax

<220>
<221> misc_feature
<222> (15)..(15)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (18)..(18)
<223> n is a, c, g, or t

<400> 108
atgattgaag cagcngcnac 20

<210> 109
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer BsuIII-8 for cloning a gene encoding a polypeptide
 having a RNaseHIII activity from Bacillus caldotenax

 <220>
 <221> misc_feature
 <222> (15)..(15)
 <223> n is a, c, g, or t

 <400> 109
 gtattggcga aatgnarytt 20

 <210> 110
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer RNIII-S3 for cloning a gene encoding a polypeptide
 having a RNaseHIII activity from Bacillus caldotenax

 <400> 110
 cccgatcgtc gtcgccgcgcg 20

 <210> 111
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer BcaRNIII-3 for cloning a gene encoding a polypeptide
 having a RNaseHIII activity from Bacillus caldotenax

 <400> 111
 gatacgtgga cactttccgc 20

 <210> 112
 <211> 915
 <212> DNA
 <213> Bucillus caldotenax

 <400> 112
 gtgattcaag ccgaccaaca gctgcttgac gccttgcgcg ccactacca agacgcctta 60
 tccgaccggc ttccggctgg agcgttggtt gccgtcaagc gcccggtgt cgatcacc 120
 gcctaccgct caggcaaagt gctgtttcaa gggaaagcgg cggagcaaga agcagcgaaa 180

tggatatcag gggcgagcgc ctcaaacgaa acagctgacc accagccgtc cgctttggca 240
 gctcatcaac tcgggtctct ttccgccatc gggtccgatg aagtcggcac cggcgattat 300
 ttcggcccga tcgtcgtcgc cgccgcctac gtggatcggc cgcataatcg caaaatcgcg 360
 gcgcttggcg tgaaagattc gaaacaattg aacgatgagg caatcaaacg gatcgcccc 420
 gccatcatgg aaaccgtgcc gcatgcggtc accgtgttgg acaatgccga atacaaccgc 480
 tggcagcgaa gcggcatgcc gcagacgaaa atgaaagcgc tccttcacaa ccggacgctc 540
 gtgaaactcg ttgacgccat cgcgcccgcc gaaccagaag caatcatcat cgacgaattt 600
 ttaaaacggg attcgtatct ccgttacctt tccgatgaag atcgcattat ccgcgagcgg 660
 gtgcactgcc ttcccaaggc ggaaagtgtc cacgtatcag tcgccgcgcgc ctcgatcatc 720
 gcccgctatg tgtttttaga ggagatggag caattatccc gcgccgtcgg cctcctgctt 780
 ccaaagggc ccggcgccat tgcgatgaa gccgcggcca acatcatccg cgcgcggggg 840
 gcggaagcgc ttgagacatg cgccaagctt catttcgcca atacaaaaaa ggcgctggac 900
 atcgccaaac gccgg 915

<210> 113
 <211> 305
 <212> PRT
 <213> *Bucillus caldotenax*

<400> 113

Met Ile Gln Ala Asp Gln Gln Leu Leu Asp Ala Leu Arg Ala His Tyr
 1 5 10 15

Gln Asp Ala Leu Ser Asp Arg Leu Pro Ala Gly Ala Leu Phe Ala Val
 20 25 30

Lys Arg Pro Asp Val Val Ile Thr Ala Tyr Arg Ser Gly Lys Val Leu
 35 40 45

Phe Gln Gly Lys Ala Ala Glu Gln Glu Ala Ala Lys Trp Ile Ser Gly
 50 55 60

Ala Ser Ala Ser Asn Glu Thr Ala Asp His Gln Pro Ser Ala Leu Ala
 65 70 75 80

Ala His Gln Leu Gly Ser Leu Ser Ala Ile Gly Ser Asp Glu Val Gly
 85 90 95

Thr Gly Asp Tyr Phe Gly Pro Ile Val Val Ala Ala Ala Tyr Val Asp
 100 105 110

Arg Pro His Ile Ala Lys Ile Ala Ala Leu Gly Val Lys Asp Ser Lys
 115 120 125

Gln Leu Asn Asp Glu Ala Ile Lys Arg Ile Ala Pro Ala Ile Met Glu
 130 135 140

Thr Val Pro His Ala Val Thr Val Leu Asp Asn Ala Glu Tyr Asn Arg
 145 150 155 160

Trp Gln Arg Ser Gly Met Pro Gln Thr Lys Met Lys Ala Leu Leu His
 165 170 175

Asn Arg Thr Leu Val Lys Leu Val Asp Ala Ile Ala Pro Ala Glu Pro
 180 185 190

Glu Ala Ile Ile Ile Asp Glu Phe Leu Lys Arg Asp Ser Tyr Phe Arg
 195 200 205

Tyr Leu Ser Asp Glu Asp Arg Ile Ile Arg Glu Arg Val His Cys Leu
 210 215 220

Pro Lys Ala Glu Ser Val His Val Ser Val Ala Ala Ala Ser Ile Ile
 225 230 235 240

Ala Arg Tyr Val Phe Leu Glu Glu Met Glu Gln Leu Ser Arg Ala Val
 245 250 255

Gly Leu Leu Leu Pro Lys Gly Ala Gly Ala Ile Val Asp Glu Ala Ala
 260 265 270

Ala Asn Ile Ile Arg Ala Arg Gly Ala Glu Ala Leu Glu Thr Cys Ala
 275 280 285

Lys Leu His Phe Ala Asn Thr Lys Lys Ala Leu Asp Ile Ala Lys Arg
 290 295 300

Arg
 305

<210> 114

<211> 39
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer BcaRNIIINde for amplifying a gene encoding a polypeptide having a RNaseHIII activity from *Bacillus caldotenax*

 <400> 114
 cgaacgttgt caaacatat gattcaagcc gaccaacag 39

 <210> 115
 <211> 663
 <212> DNA
 <213> *Pyrococcus horikoshii*

 <400> 115
 atgaaggttg ctggagttga tgaagcgggg agggggccgg taattggccc gttagtaatt 60
 ggagtagccg ttatagatga gaaaaatatt gagaggttac gtgacattgg ggttaaagac 120
 tccaaacaat taactcctgg gcaacgtgaa aaactattta gcaaattaat agatataccta 180
 gacgattatt atgttcttct cgttaccccc aaggaaatag atgagaggca tcattctatg 240
 aatgaactag aagctgagaa attcgttgta gccttgaatt ctttaaggat caagccgcag 300
 aagatatatg tggactctgc cgatgtagat cctaagaggt ttgctagtct aataaaggct 360
 gggttgaaat atgaagccac gggtatcgcc gagcataaag ccgatgcaaa gtatgagata 420
 gtatcggcag catcaataat tgcaaaggct actagggata gagagataga gaagctaaag 480
 caaaagtatg gggaatttgg ttctggctat ccgagtgatc cgagaactaa ggagtggctt 540
 gaagaatatt acaaacaata tgggtgacttt cctccaatag ttagggagaac ttgggaaacc 600
 gctaggaaga tagaggaaag gtttagaaaa aatcagctaa cgcttgataa attccttaag 660
 tga 663

 <210> 116
 <211> 33
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer 1650Nde for cloning a gene encoding a polypeptide having a RNaseHII activity from *Pyrococcus furiosus*

 <400> 116
 caggaggaga gacatatgaa aataggggga att 33

 <210> 117
 <211> 33

<212> DNA
 <213> Artificial

<220>
 <223> PCR primer 1650Bam for cloning a gene encoding a polypeptide having a RNaseHII activity from *Pyrococcus furiosus*

<400> 117
 gaaggttgat gatccacttt ctaaggtttc tta 33

<210> 118
 <211> 672
 <212> DNA
 <213> *Pyrococcus furiosus*

<400> 118
 atgaaaatag ggggaattga cgaagcagga agaggaccag cgatagggcc attagtagta 60
 gctactgtcg tcgttgatga gaaaaacatt gagaagctca gaaacattgg agtaaaagac 120
 tccaaacaac taacacccca tgaaaggaag aatttatattt cccagataac ctcaatagcg 180
 gatgattaca aaatagtgat agtatcccca gaagaaatcg acaatagatc aggaacaatg 240
 aacgagttag aggtagagaa gtttgctctc gccttaaatt cgcttcagat aaaaccagct 300
 cttatatacg ctgatgcagc ggatgtagat gccaatagat ttgcaagctt gatagagaga 360
 agactcaatt ataaggcgaa gattattgcc gaacacaagg ccgatgcaaa gtatccagta 420
 gtttcagcag cttcaatact tgcaaagggt gttagggatg aggaaattga aaaattaaaa 480
 aagcaatatg gagactttgg ctctgggtat ccaagtgatc caaaaaccaa gaaatggctt 540
 gaagagtact acaaaaaaca caactctttc cctccaatag tcagacgaac ctgggaaaact 600
 gtaagaaaaa tagaggaaag cattaaagcc aaaaaatccc agctaacgct tgataaatc 660
 ttaagaaac ct 672

<210> 119
 <211> 224
 <212> PRT
 <213> *Pyrococcus furiosus*

<400> 119

Met Lys Ile Gly Gly Ile Asp Glu Ala Gly Arg Gly Pro Ala Ile Gly
 1 5 10 15

Pro Leu Val Val Ala Thr Val Val Val Asp Glu Lys Asn Ile Glu Lys
 20 25 30

Leu Arg Asn Ile Gly Val Lys Asp Ser Lys Gln Leu Thr Pro His Glu

35	40	45
Arg Lys Asn Leu Phe Ser Gln Ile Thr Ser Ile Ala Asp Asp Tyr Lys		
50	55	60
Ile Val Ile Val Ser Pro Glu Glu Ile Asp Asn Arg Ser Gly Thr Met		
65	70	75
Asn Glu Leu Glu Val Glu Lys Phe Ala Leu Ala Leu Asn Ser Leu Gln		
85	90	95
Ile Lys Pro Ala Leu Ile Tyr Ala Asp Ala Ala Asp Val Asp Ala Asn		
100	105	110
Arg Phe Ala Ser Leu Ile Glu Arg Arg Leu Asn Tyr Lys Ala Lys Ile		
115	120	125
Ile Ala Glu His Lys Ala Asp Ala Lys Tyr Pro Val Val Ser Ala Ala		
130	135	140
Ser Ile Leu Ala Lys Val Val Arg Asp Glu Glu Ile Glu Lys Leu Lys		
145	150	155
Lys Gln Tyr Gly Asp Phe Gly Ser Gly Tyr Pro Ser Asp Pro Lys Thr		
165	170	175
Lys Lys Trp Leu Glu Glu Tyr Tyr Lys Lys His Asn Ser Phe Pro Pro		
180	185	190
Ile Val Arg Arg Thr Trp Glu Thr Val Arg Lys Ile Glu Glu Ser Ile		
195	200	205
Lys Ala Lys Lys Ser Gln Leu Thr Leu Asp Lys Phe Phe Lys Lys Pro		
210	215	220

<210> 120
 <211> 28
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer 915-F1 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Thermotoga maritima

<400> 120
 aaaaagcttg ggaatagatg agctttac

<210> 121
 <211> 26
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer 915-F2 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from *Thermotoga maritima*

 <400> 121
 aaaccatggg aatagatgag ctttac 26

 <210> 122
 <211> 29
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer 915-R1 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from *Thermotoga maritima*

 <400> 122
 aaatctagat cctcaacttt gtcgatgtg 29

 <210> 123
 <211> 30
 <212> DNA
 <213> Artificial

 <220>
 <223> PCR primer 915-R2 for cloning a gene encoding a polypeptide
 having a RNaseHII activity from *Thermotoga maritima*

 <400> 123
 aatctagatt aaaaaagagg gagattatgg 30

 <210> 124
 <211> 22
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as MCS-F to amplify a
 long DNA fragment

 <400> 124
 ccattcaggc tgcgcaactg tt 22

 <210> 125
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as MCS-R to amplify a long DNA fragment

<400> 125
 tggcacgaca ggtttcccga ct 22

<210> 126
 <211> 24
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as MF2N3(24) to amplify a long DNA fragment. "nucleotides 22 to 24 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 126
 gctgcaaggc gattaagttg ggua 24

<210> 127
 <211> 24
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as MR1N3(24) to amplify a long DNA fragment. "nucleotides 22 to 24 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 127
 ctttatgctt ccggctcgta tguu 24

<210> 128
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of lambda DNA. "nucleotides 18 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 128
 cctttctctg tttttgtccg 20

<210> 129
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of

lambda DNA. "nucleotides 18 to 20 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 129
aagcacctca ttaccctugc 20

<210> 130
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of lambda
DNA

<400> 130
gggcggcgac ctgcggggtt ttcg 24

<210> 131
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of lambda
DNA

<400> 131
gctgcttatg ctctataaag tagg 24

<210> 132
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
Flavobacterium species DNA. "nucleotides 18 to 20 are
ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 132
aggaatcttt atttaccaug 20

<210> 133
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
Flavobacterium species DNA. "nucleotides 18 to 20 are
ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 133

tggtgttttaa acttattgcg 20

<210> 134
<211> 24
<212> DNA
<213> Artificial

<220>

<223> Designed oligonucleotide primer to amplify a portion of
Flavobacterium species DNA.

<400> 134
ccatcagcta taaacacaaa cagc 24

<210> 135
<211> 24
<212> DNA
<213> Artificial

<220>

<223> Designed oligonucleotide primer to amplify a portion of
Flavobacterium species DNA.

<400> 135
tgttttgacc aaacatagta atgc 24

<210> 136
<211> 21
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of
vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
O-157. "nucleotides 19 to 21 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 136
tcgttaaata gtatacggac a 21

<210> 137
<211> 20
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of
vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
O-157. "nucleotides 18 to 20 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 137
tgctcaataa tcagacgaag 20

<210> 138
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of vero toxin 2-encoding sequence from hemorrhagic Escherichia coli O-157.

 <400> 138
 aaatggggta ctgtgcctgt tact 24

 <210> 139
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of vero toxin 2-encoding sequence from hemorrhagic Escherichia coli O-157.

 <400> 139
 ctctgtatct gcctgaagcg taag 24

 <210> 140
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of vero toxin 2-encoding sequence from hemorrhagic Escherichia coli O-157. "nucleotides 18 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 140
 tacctgggtt tttcttcggu a 21

 <210> 141
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of vero toxin 2-encoding sequence from hemorrhagic Escherichia coli O-157. "nucleotides 18 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 141
 atagactttt cgacccaaca 20

<210> 142
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 142
 atagacatca agccctcgua 20

 <210> 143
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of vero
 toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157.

 <400> 143
 tcgttaaata gtatacggac a 21

 <210> 144
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of vero
 toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157.

 <400> 144
 atagacatca agccctcgta 20

 <210> 145
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 lambda DNA. "nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 145
 gaacaatgga agtcaacaaa 20

<210> 146
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of viroid CSVd.

 <400> 146
 tacttgtggt tcctgtggtg 20

 <210> 147
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of viroid CSVd.

 <400> 147
 atactaaggt tccaagggt 20

 <210> 148
 <211> 18
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of viroid CSVd. "nucleotides 16 to 18 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 148
 ggaaacctgg aggaaguc 18

 <210> 149
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of viroid CSVd. "nucleotides 18 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 149
 gtgaaaaccc tgtttaggau 20

 <210> 150
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 Flavobacterium species DNA. "nucleotides 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 150
 acctagatat aagctctaca 20

<210> 151
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 Flavobacterium species DNA. "nucleotides 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 151
 aaatagatgt tttagcagag 20

<210> 152
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 Flavobacterium species DNA. "nucleotides 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 152
 atagataaaa aaaactccac 20

<210> 153
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 19 to 21 are ribonucleotides-nucloetide

<220>
 <221> misc_feature
 <222> (18)..(18)
 <223> n is inosine-other nucleotides are deoxyribonucleotides

<400> 153
 tcgttaaata gtatacgnac a 21

<210> 154
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. nucleotides 19 to 21 are ribonucleotides-nucleotide

 <220>
 <221> misc_feature
 <222> (17)..(17)
 <223> n is inosine other nucleotides are deoxyribonucleotides

 <400> 154
 tcgttaaata gtatacngac a 21

 <210> 155
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. nucleotides 19 to 21 are ribonucleotides-nucleotide

 <220>
 <221> misc_feature
 <222> (16)..(16)
 <223> n is inosine-other nucleotides are deoxyribonucleotides

 <400> 155
 tcgttaaata gtatanggac a 21

 <210> 156
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. nucleotides 18 to 20 are ribonucleotides-nucleotide

 <220>
 <221> misc_feature
 <222> (17)..(17)
 <223> n is inosine-other nucleotides are deoxyribonucleotides"

 <400> 156
 tgctcaataa tcagacnaag 20

<210> 157
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 18 to 20 are ribonucleotides-nucleotide

 <220>
 <221> misc_feature
 <222> (16)..(16)
 <223> n is inosine-other nucleotides are deoxyribonucleotides

 <400> 157
 tgctcaataa tcagangaag 20

 <210> 158
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 18 to 20 are ribonucleotides-nucleotide

 <220>
 <221> misc_feature
 <222> (15)..(15)
 <223> n is inosine-other nucleotides are deoxyribonucleotides

 <400> 158
 tgctcaataa tcagncgaag 20

 <210> 159
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 9 to 11 and 19 to 21 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 159
 tacctggguu uttcttcggu a 21

 <210> 160

<211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 8 to 10 and 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 160
 atagacauca agccctcgua 20

 <210> 161
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
 O-157. "nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 161
 gtcccctgag atatatguuc 20

 <210> 162
 <211> 30
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide probe to detect a DNA fragment amplifying
 a portion of vero toxin 2-encoding sequence from hemorrhagic
 Escherichia coli O-157.

 <400> 162
 ccaacaaagt tatgtctctt cgttaaatag 30

 <210> 163
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 iNOS-encoding sequence from mouse. "nucleotides 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 163
 atgccattga gttcatcaac 20

 <210> 164

<211> 19
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 iNOS-encoding sequence from mouse. "nucleotides 17 to 19 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 164
 tcttggtggc aaagatgag 19

 <210> 165
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 iNOS-encoding sequence from mouse.

 <400> 165
 atgccattga gttcatcaac 20

 <210> 166
 <211> 19
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 iNOS-encoding sequence from mouse

 <400> 166
 tcttggtggc aaagatgag 19

 <210> 167
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as GMO-PCR-F 20mer

 <400> 167
 atcggttgaag atgcctctgc 20

 <210> 168
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> designed oligonucleotide primer designated as GMO-PCR-R 20mer

<400> 168
tccgtatgat cgcgcgtcat 20

<210> 169
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as GMO-S1
20mer. "nucleotides 19 to 20 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 169
tttgagagg acacgctgac 20

<210> 170
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as GMO-S2 20mer.
"nucleotides 19 to 20 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 170
ggacacgctg acaagctgac 20

<210> 171
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as GMO-A1 20mer.
"nucleotides 19 to 20 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 171
ggctgtagcc actgatgcug 20

<210> 172
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as GMO-A2 20 mer.
"nucleotides 19 to 20 are ribonucleotides-other nucleotides are
deoxyribonucleotides"

<400> 172

ttccggaaag gccagaggau

20

<210> 173
<211> 20
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of
vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
O-157. "nucleotides 18 to 20 are
(alpha-thio)ribonucleotides-other nucleotides are

<400> 173
tactgggttt ttcttcggua

20

<210> 174
<211> 20
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of
vero toxin 2-encoding sequence from hemorrhagic Escherichia coli
O-157. "nucleotides 18 to 20 are
(alpha-thio)ribonucleotides-other nucleotides are

<400> 174
atagacatca agccctcgua

20

<210> 175
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of
INOS-encoding sequence from mouse."nucleotides 20 to 22 are
ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 175
tcatgccatt gagttcatca ac

22

<210> 176
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of
INOS-encoding sequence from mouse."nucleotides 20 to 22 are
ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 176
 tggtagggttc ctgttggtttc ua 22

<210> 177
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of
 INOS-encoding sequence from mouse.

<400> 177
 tcatgccatt gagttcatca ac 22

<210> 178
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of
 INOS-encoding sequence from mouse.

<400> 178
 tggtagggttc ctgttggtttc ta 22

<210> 179
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 lambda DNA."nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

<400> 179
 ctgcgaggcg gtggcaaggg 20

<210> 180
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 lambda DNA."nucleotides 19 to 21 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

<400> 180
 ctgcctcgct ggccgtgccg c 21

<210> 181
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 INOS-encoding sequence from mouse."nucleotides 21 to 23 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 181
 ctcatgccat tgagttcatc aac 23

 <210> 182
 <211> 22
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 INOS-encoding sequence from mouse."nucleotides 20 to 22 are
 ribonucleotides-other nucleotides are deoxyribonucleotides"

 <400> 182
 gctggtaggt tcctgttgtu uc 22

 <210> 183
 <211> 19
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 pDON-AI DNA."nucleotides 17 to 19 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 183
 agctctgtat ctggcggac 19

 <210> 184
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 pDON-AI DNA."nucleotides 19 to 21 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 184
 gatcgggatt ttggactca g 21

 <210> 185

<211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 HPV type16 DNA."nucleotides 19 to 21 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 185
 caaaagagaa ctgcaatguu u 21

 <210> 186
 <211> 25
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 HPV type16 DNA."nucleotides 19 to 21 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 186
 cgcctccatc cagtctatta atugu 25

 <210> 187
 <211> 27
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide probe to detect a DNA fragment amplifying
 a portion of HPV DNA.

 <400> 187
 gaggacccac aggagcgcacc cagaaaag 27

 <210> 188
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of HCV.

 <400> 188
 cactccacca tgaatcactc 20

 <210> 189
 <211> 20
 <212> DNA
 <213> Artificial

 <220>

<223> Designed oligonucleotide primer to amplify a portion of HCV.

<400> 189
ggtgcacggt ctacgagacc 20

<210> 190
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of HCV."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 190
ctgtgaggaa ctactgtcuu c 21

<210> 191
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of HCV."nucleotides 16 to 18 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 191
gcagaccact atggcucu 18

<210> 192
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide probe to detect a DNA fragment amplifying portion of HCV.

<400> 192
gtatgagtgt cgtgcagcct ccaggacccc 30

<210> 193
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of adenovirus."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 193

tgagacatat tatctgccac g 21

<210> 194
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of adenovirus."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 194
aaatggctag gaggtggaag a 21

<210> 195
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of adenovirus."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 195
ttatcagcca gtacctctuc g 21

<210> 196
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of adenovirus

<400> 196
tgagacatat tatctgccac g 21

<210> 197
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of adenovirus.

<400> 197
aaatggctag gaggtggaag a 21

<210> 198

<211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of viroid CSVd.

 <400> 198
 ggggaaacct ggaggaagtc 20

 <210> 199
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of viroid CSVd.

 <400> 199
 cgggtagtag ccaaaggaag 20

 <210> 200
 <211> 19
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of pDON-AI DNA.

 <400> 200
 agctctgtat ctggcggac 19

 <210> 201
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of pDON-AI DNA.

 <400> 201
 gatcgggatt tttggactca g 21

 <210> 202
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of

verotoxin-1 encoding sequence from hemorrhagic Escherichia coli
0-157."nucleotides 18 to 20 are ribonucleotides-other nucleotides
are deoxyribonucleotides"

<400> 202
ggggataatt tgtttgcagu 20

<210> 203
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
verotoxin-1 encoding sequence from hemorrhagic Escherichia coli
0-157."nucleotides 18 to 20 are ribonucleotides-other nucleotides
are deoxyribonucleotides"

<400> 203
tcgttcaaca ataagccgua 20

<210> 204
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide probe to detect a DNA fragment
amplifying a portion of verotoxin-1 encoding sequence from
hemorrhagic Escherichia coli 0-157.

<400> 204
cgcccttcct ctggatctac ccctctgaca 30

<210> 205
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
botulinum toxin A encoding sequence from Clostridium
botulinum."nucleotides 19 to 21 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 205
caccagaagc aaaacaaguu c 21

<210> 206
<211> 23
<212> DNA
<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer to amplify a portion of botulinum toxin A encoding sequence from Clostridium botulinum."nucleotides 21 to 23 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 206
ctattgatgt taacaacatt cuu 23

<210> 207
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide probe to detect a DNA fragment amplifying a portion of botulinum toxin A encoding sequence from Clostridium botulinum.

<400> 207
gggagttaca aaattatttg agagaattta 30

<210> 208
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of viroid CSVd."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 208
cacccttcct ttagtttccu u 21

<210> 209
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of viroid CSVd."nucleotides 18 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 209
cgttgaagct tcagttguuu 20

<210> 210
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide probe to detect a DNA fragment

amplifying a portion of viroid CSVd.

<400> 210
ccttcctctc ctggagaggt cttctgccct 30

<210> 211
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
viroid CSVd."nucleotides 19 to 21 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 211
cacccttcct ttagtttccu u 21

<210> 212
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer to amplify a portion of
viroid CSVd."nucleotides 19 to 21 are ribonucleotides-other
nucleotides are deoxyribonucleotides"

<400> 212
cggtgaagct tcagttgtuu c 21

<210> 213
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of viroid
CSVd.

<400> 213
cacccttcct ttagtttcct t 21

<210> 214
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of viroid
CSVd.

<400> 214
cggtgaagct tcagttgttt c 21

<210> 215
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 c-ki-ras oncogene."nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 215
 gactgaatat aaacttgugg 20

 <210> 216
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 c-ki-ras oncogene."nucleotides 18 to 20 are ribonucleotides-other
 nucleotides are deoxyribonucleotides"

 <400> 216
 ctattgttgg atcatatucg 20

 <210> 217
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of c-ki-ras
 oncogene.

 <400> 217
 gactgaatat aaacttggtg 20

 <210> 218
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of c-ki-ras
 oncogene.

 <400> 218
 ctattgttgg atcatattcg 20

 <210> 219
 <211> 20

<212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 verotoxin-2 encoding sequence from hemorrhagic Escherichia coli
 O-157."nucleotides 18 to 20 are ribonucleotides-other nucleotides
 are deoxyribonucleotides"

 <400> 219
 gacttttcga cccaacaaag 20

 <210> 220
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer to amplify a portion of
 verotoxin-2 encoding sequence from hemorrhagic Escherichia coli
 O-157."nucleotides 18 to 20 are ribonucleotides-other nucleotides
 are deoxyribonucleotides"

 <400> 220
 atatccacag caaaataacu 20

 <210> 221
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 INOS-encoding sequence from mouse.

 <400> 221
 cacaaggcca catcggttt c 21

 <210> 222
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 INOS-encoding sequence from mouse.

 <400> 222
 tgcataccac ttcaacccga g 21

 <210> 223
 <211> 25
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as pUC19 upper 150 to amplify a portion of plasmid pUC19.

<400> 223
 ggtgtcacgc tcgtcgtttg gtatg 25

<210> 224
 <211> 25
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as pUC19 lower NN to amplify a portion of plasmid pUC19.

<400> 224
 gataacactg cggccaactt acttc 25

<210> 225
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as SEA-1 to amplify a portion of Staphylococcus aureus."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 225
 tgtatgtatg gtggtgtaac g 21

<210> 226
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as SEA-2 to amplify a portion of Staphylococcus aureus."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 226
 taaccgtttc caaagggtacu g 21

<210> 227
 <211> 19
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as HCV-F3 to amplify a portion of HCV. "nucleotides 17 to 19 are

ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 227
gcgtctagcc atggcguaa 19

<210> 228
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as HCV-R1 to
amplify a portion of HCV. "nucleotides 16 to 18 are
ribonucleotides-other nucleotides are deoxyribonucleotides"

<400> 228
gcagaccact atggcucu 18

<210> 229
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as MF2 to amplify a
portion of pUC19 plasmid DNA.

<400> 229
ggatgtgctg caaggcgatt aagttgggta 30

<210> 230
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as MR1 to amplify a
portion of pUC19 plasmid DNA.

<400> 230
tttacacttt atgcttccgg ctcgtatgtt 30

<210> 231
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of
adenovirus.

<400> 231
ttatcagcca gtacctcttc g 21

<210> 232
 <211> 714
 <212> DNA
 <213> Thermotoga maritima

<400> 232
 atgggaatag atgagcttta caaaaaagag tttggaatcg tagcaggtgt ggatgaagcg 60
 ggaagagggt gcctcgcagg tcccgttggt gcggccgctg tcgttctgga aaaagaaata 120
 gaaggaataa acgattcaaa acagctttcc cctgcgaaga gggaaagact tttagatgaa 180
 ataatggaga aggcagcagt tgggttagga attgcgtctc cagaggaaat agatctctac 240
 aacatattca atgccacaaa acttgctatg aatcgagcac tggagaacct gtctgtgaaa 300
 ccatcatttg tactcgttga cgggaaagga atcgagttga gcgttcccgg tacatgctta 360
 gtgaaggagg accagaaaag caaattgata ggagcagctt ccattgttgc gaaggctctc 420
 agagatagat tgatgagcga gtttcacagg atgtatccac agttttcctt ccacaaacac 480
 aaaggttacg ccacaaaaga acatctgaac gaaatcagaa agaacggagt tttaccaatc 540
 caccggctga gttttgaacc tgttttagaa cttctgaccg atgatttggt gagggagttc 600
 ttcgaaaaag gcctcatctc cgaaaatcga ttcgaacgaa tattgaatct tctgggggcg 660
 agaaaaagtg tggttttccg gaaagaaaga acaaaccata atctccctct tttt 714

<210> 233
 <211> 238
 <212> PRT
 <213> Thermotoga maritime

<400> 233

Met	Gly	Ile	Asp	Glu	Leu	Tyr	Lys	Lys	Glu	Phe	Gly	Ile	Val	Ala	Gly
1				5					10					15	
Val	Asp	Glu	Ala	Gly	Arg	Gly	Cys	Leu	Ala	Gly	Pro	Val	Val	Ala	Ala
			20					25					30		
Ala	Val	Val	Leu	Glu	Lys	Glu	Ile	Glu	Gly	Ile	Asn	Asp	Ser	Lys	Gln
		35					40					45			
Leu	Ser	Pro	Ala	Lys	Arg	Glu	Arg	Leu	Leu	Asp	Glu	Ile	Met	Glu	Lys
	50					55					60				
Ala	Ala	Val	Gly	Leu	Gly	Ile	Ala	Ser	Pro	Glu	Glu	Ile	Asp	Leu	Tyr
65					70					75				80	

Asn Ile Phe Asn Ala Thr Lys Leu Ala Met Asn Arg Ala Leu Glu Asn
85 90 95

Leu Ser Val Lys Pro Ser Phe Val Leu Val Asp Gly Lys Gly Ile Glu
100 105 110

Leu Ser Val Pro Gly Thr Cys Leu Val Lys Gly Asp Gln Lys Ser Lys
115 120 125

Leu Ile Gly Ala Ala Ser Ile Val Ala Lys Val Phe Arg Asp Arg Leu
130 135 140

Met Ser Glu Phe His Arg Met Tyr Pro Gln Phe Ser Phe His Lys His
145 150 155 160

Lys Gly Tyr Ala Thr Lys Glu His Leu Asn Glu Ile Arg Lys Asn Gly
165 170 175

Val Leu Pro Ile His Arg Leu Ser Phe Glu Pro Val Leu Glu Leu Leu
180 185 190

Thr Asp Asp Leu Leu Arg Glu Phe Phe Glu Lys Gly Leu Ile Ser Glu
195 200 205

Asn Arg Phe Glu Arg Ile Leu Asn Leu Leu Gly Ala Arg Lys Ser Val
210 215 220

Val Phe Arg Lys Glu Arg Thr Asn His Asn Leu Pro Leu Phe
225 230 235

<210> 234

<211> 663

<212> DNA

<213> Pyrococcus horikoshii

<400> 234

atgaaggttg ctggagttga tgaagcgggg agggggccgg taattggccc gttagtaatt 60

ggagtagccg ttatagatga gaaaaatatt gagagggttac gtgacattgg ggttaaagac 120

tccaaacaat taactcctgg gcaacgtgaa aaactattta gcaaattaat agatataccta 180

gacgattatt atgttcttct cgttaccccc aaggaaatag atgagaggca tcattctatg 240

aatgaactag aagctgagaa attcgttgta gccttgaatt ctttaaggat caagccgcag 300

aagatatatg tggactctgc cgatgtagat cctaagaggt ttgctagtct aataaaggct 360

gggttgaaat atgaagccac gggtatcgcc gagcataaag ccgatgcaaa gtatgagata 420
gtatcggcag catcaataat tgcaaaggctc actagggata gagagataga gaagctaaag 480
caaaagtatg gggaatttgg ttctggctat ccgagtgatc cgagaactaa ggagtggctt 540
gaagaatatt acaacaata tggtgacttt cctccaatag ttaggagaac ttgggaaacc 600
gctaggaaga tagaggaaag gtttagaaaa aatcagctaa cgcttgataa attccttaag 660
tga 663

<210> 235
<211> 30
<212> DNA
<213> Artificial

<220>
<223> PCR primer PhoNde for cloning a gene encoding a polypeptide
having a RNaseHII activity from Pyrococcus horikoshii

<400> 235
aggaggaaaa tcatatgaag gttgctggag 30

<210> 236
<211> 30
<212> DNA
<213> Artificial

<220>
<223> PCR primer PhoBam for cloning a gene encoding a polypeptide
having a RNaseHII activity from Pyrococcus horikoshii

<400> 236
ttacatgaag gatccaagat cacttaagga 30

<210> 237
<211> 673
<212> DNA
<213> Pyrococcus horikoshii

<400> 237
atgaaggttg ctggagttga tgaagcgggg agggggccgg taattggccc gttagtaatt 60
ggagtagccg ttatagatga gaaaaatatt gagagggttac gtgacattgg ggttaaagac 120
tccaaacaat taactcctgg gcaacgtgaa aaactattta gcaaattaat agatatccta 180
gacgattatt atgttcttct cgttaccccc aaggaaatag atgagaggca tcattctatg 240
aatgaactag aagctgagaa attcgttgta gccttgaatt ctttaaggat caagccgcag 300
aagatatatg tggactctgc cgatgtagat cctaagaggt ttgctagtct aataaaggct 360

gggttgaaat atgaagccac gggttatcgcc gagcataaag ccgatgcaaa gtatgagata 420
 gtatcggcag catcaataat tgcaaaggtc actagggata gagagataga gaagctaaag 480
 caaaagtatg gggaatttgg ttctggctat ccgagtgatc cgagaactaa ggagtggctt 540
 gaagaatatt acaaacaata tggtgacttt cctccaatag ttagggagaac ttgggaaacc 600
 gctaggaaga tagaggaaag gtttagaaaa aatcagctaa cgcttgataa attccttaag 660
 tgatcttgga tcc 673

<210> 238
 <211> 220
 <212> PRT
 <213> *Pyrococcus horikoshii*

<400> 238

Met Lys Val Ala Gly Val Asp Glu Ala Gly Arg Gly Pro Val Ile Gly
1 5 10 15

Pro Leu Val Ile Gly Val Ala Val Ile Asp Glu Lys Asn Ile Glu Arg
20 25 30

Leu Arg Asp Ile Gly Val Lys Asp Ser Lys Gln Leu Thr Pro Gly Gln
35 40 45

Arg Glu Lys Leu Phe Ser Lys Leu Ile Asp Ile Leu Asp Asp Tyr Tyr
50 55 60

Val Leu Leu Val Thr Pro Lys Glu Ile Asp Glu Arg His His Ser Met
65 70 75 80

Asn Glu Leu Glu Ala Glu Lys Phe Val Val Ala Leu Asn Ser Leu Arg
85 90 95

Ile Lys Pro Gln Lys Ile Tyr Val Asp Ser Ala Asp Val Asp Pro Lys
100 105 110

Arg Phe Ala Ser Leu Ile Lys Ala Gly Leu Lys Tyr Glu Ala Thr Val
115 120 125

Ile Ala Glu His Lys Ala Asp Ala Lys Tyr Glu Ile Val Ser Ala Ala
130 135 140

Ser Ile Ile Ala Lys Val Thr Arg Asp Arg Glu Ile Glu Lys Leu Lys
145 150 155 160

Gln Lys Tyr Gly Glu Phe Gly Ser Gly Tyr Pro Ser Asp Pro Arg Thr
 165 170 175

Lys Glu Trp Leu Glu Glu Tyr Tyr Lys Gln Tyr Gly Asp Phe Pro Pro
 180 185 190

Ile Val Arg Arg Thr Trp Glu Thr Ala Arg Lys Ile Glu Glu Arg Phe
 195 200 205

Arg Lys Asn Gln Leu Thr Leu Asp Lys Phe Leu Lys
 210 215 220

<210> 239
 <211> 626
 <212> DNA
 <213> Archaeoglobus fulgidus

<400> 239
 atgaaggcag gcacgatga ggctggaaag ggctgcgta tcggcccact ggttggtgca 60
 ggagtggctt gcagcgatga ggataggctg agaaagcttg gtgtgaaaga ctccaaaaag 120
 ctaagtcagg ggaggagaga ggaactagcc gaggaataa ggaaaatctg cagaacggag 180
 gttttgaaag tttctccga aaatctcgac gaaaggatgg ctgctaaaac cataaacgag 240
 attttgaagg agtgctacgc tgaaataatt ctcaggctga agccggaaat tgcttatgtt 300
 gacagtcctg atgtgattcc cgagagactt tcgaggggagc ttgaggagat tacgggggtg 360
 agagttgttg ccgagcaciaa ggcggacgag aagtatcccc tggtagctgc ggcttcaatc 420
 atcgcaaagg tggaaaggga gcgggagatt gagaggctga aagaaaaatt cggggatttc 480
 ggcagcggct atgcgagcga tccgaggaca agagaagtgc tgaaggagtg gatagcttca 540
 ggcagaattc cgagctgcgt gagaatgcgc tggaagacgg tgtcaaactc gaggcagaag 600
 acgcttgacg atttctaaac gaaacc 626

<210> 240
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer AfuNde for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Archaeoglobus fulgidus

<400> 240
 aagctgggtt tcatatgaag gcaggcatcg 30

<210> 241
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer AfuBam for cloning a gene encoding a polypeptide
 having a RNaseHII activity from Archaeoglobus fulgidus

<400> 241
 tggtataaac ggatccgttt agaaatcgtc 30

<210> 242
 <211> 638
 <212> DNA
 <213> Archaeoglobus fulgidus

<400> 242
 catatgaagg caggcatcga tgaggctgga aagggtcgcg tcatcgcccc actggttgtt 60
 gcaggagtgg cttgcagcga tgaggatagg ctgagaaagc ttggtgtgaa agactccaaa 120
 aagctaagtc aggggaggag agaggaacta gccgaggaaa taaggaaaat ctgcagaacg 180
 gaggttttga aagttttctcc cgaaaatctc gacgaaagga tggctgctaa aaccataaac 240
 gagattttga aggagtgtga cgctgaaata attctcaggc tgaagccgga aattgcttat 300
 gttgacagtc ctgatgtgat tcccagagaga ctttcgaggg agcttgagga gattacgggg 360
 ttgagagttg tggccgagca caaggcggac gagaagtatc ccctggtagc tgcggcttca 420
 atcatcgcaa aggtggaaag ggagcgggag attgagaggc tgaaagaaaa attcggggat 480
 ttcggcagcg gctatgagag cgatccgagg acaagagaag tgctgaagga gtggatagct 540
 tcaggcagaa ttccgagctg cgtgagaatg cgctggaaga cgggtgtcaaa tctgaggcag 600
 aagacgcttg acgatttcta aacggatccc cgggtacc 638

<210> 243
 <211> 205
 <212> PRT
 <213> Archaeoglobus fulgidus

<400> 243

Met Lys Ala Gly Ile Asp Glu Ala Gly Lys Gly Cys Val Ile Gly Pro
 1 5 10 15

Leu Val Val Ala Gly Val Ala Cys Ser Asp Glu Asp Arg Leu Arg Lys
 20 25 30

Leu Gly Val Lys Asp Ser Lys Lys Leu Ser Gln Gly Arg Arg Glu Glu
35 40 45

Leu Ala Glu Glu Ile Arg Lys Ile Cys Arg Thr Glu Val Leu Lys Val
50 55 60

Ser Pro Glu Asn Leu Asp Glu Arg Met Ala Ala Lys Thr Ile Asn Glu
65 70 75 80

Ile Leu Lys Glu Cys Tyr Ala Glu Ile Ile Leu Arg Leu Lys Pro Glu
85 90 95

Ile Ala Tyr Val Asp Ser Pro Asp Val Ile Pro Glu Arg Leu Ser Arg
100 105 110

Glu Leu Glu Glu Ile Thr Gly Leu Arg Val Val Ala Glu His Lys Ala
115 120 125

Asp Glu Lys Tyr Pro Leu Val Ala Ala Ala Ser Ile Ile Ala Lys Val
130 135 140

Glu Arg Glu Arg Glu Ile Glu Arg Leu Lys Glu Lys Phe Gly Asp Phe
145 150 155 160

Gly Ser Gly Tyr Ala Ser Asp Pro Arg Thr Arg Glu Val Leu Lys Glu
165 170 175

Trp Ile Ala Ser Gly Arg Ile Pro Ser Cys Val Arg Met Arg Trp Lys
180 185 190

Thr Val Ser Asn Leu Arg Gln Lys Thr Leu Asp Asp Phe
195 200 205

<210> 244

<211> 18

<212> DNA

<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as MTIS2F to amplify a portion of Mycobacterium tuberculosis DNA."nucleotides 16 to 18 are ribonucleotides-other nucleotides are deoxyribonucleotides."

<400> 244

tctcgtccag cgccgcuu

18

<210> 245
 <211> 21
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as MTIS2R to amplify a portion of Mycobacterium tuberculosis DNA."nucleotides 19 to 21 are ribonucleotides-other nucleotides are deoxyribonucleotides."

 <400> 245
 gacaaaggcc acgtaggcga a 21

 <210> 246
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as CT2F to amplify a portion of Chlamydia trachomatis cryptic plasmid DNA."nucleotides 18 to 20 are ribonucleotides-other nucleotides are deoxyribonucleotides."

 <400> 246
 ctggatttat cggaaccuu 20

 <210> 247
 <211> 18
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as CT2R to amplify a portion of Chlamydia trachomatis cryptic plasmid DNA."nucleotides 16 to 18 are ribonucleotides-other nucleotides are deoxyribonucleotides."

 <400> 247
 aggcctctga aacgacuu 18

 <210> 248
 <211> 19
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as K-F-1033(60) to amplify a portion of Mycobacterium tuberculosis DNA."nucleotides 17 to 19 are ribonucleotides-other nucleotides are deoxyribonucleotides."

<400> 248
 cacatcgatc cggttcagc 19

<210> 249
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as
 K-R-1133(62) to amplify a portion of Mycobacterium tuberculosis
 DNA."nucleotides 18 to 20 are ribonucleotides-other nucleotides
 are deoxyribonucleotides."

<400> 249
 tgatcgtctc ggctagtgc 20

<210> 250
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as
 K-F-1033(68) to amplify a portion of Mycobacterium tuberculosis
 DNA."nucleotides 20 to 22 are ribonucleotides-other nucleotides
 are deoxyribonucleotides."

<400> 250
 gtacacatcg atccggttca gc 22

<210> 251
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as
 K-R-1133(68) to amplify a portion of Mycobacterium tuberculosis
 DNA."nucleotides 20 to 22 are ribonucleotides-other nucleotides
 are deoxyribonucleotides."

<400> 251
 gttgatcgtc tcggctagtgc ca 22

<210> 252
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as F26 to amplify a
 portion of Mycobacterium tuberculosis DNA.

<400> 252
 ccggagactc cagttcttgg 20

<210> 253
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as R1310 to amplify a
 portion of Mycobacterium tuberculosis DNA.

<400> 253
 gtctctggcg ttgagcgtag 20

<210> 254
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as
 pDON-AI-68-1 to amplify a portion of pDON-AI."nucleotides 20 to
 22 are ribonucleotides-other nucleotides are
 deoxyribonucleotides."

<400> 254
 actagctctg tatctggcgg ac 22

<210> 255
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as
 pDON-AI-68-2 to amplify a portion of pDON-AI."nucleotides 21 to
 23 are ribonucleotides-other nucleotides are
 deoxyribonucleotides."

<400> 255
 acgatcggga tttttggact cag 23

<210> 256
 <211> 300
 <212> DNA
 <213> Homo sapiens proto-oncogene Wnt-5a

<400> 256
 cactagattt tttgtttggg gaggttggct tgaacataaa tgaaatatcc tgtattttct 60
 tagggatact tggtagtaa attataatag tagaaataat acatgaatcc cattcacagg 120
 tttctcagcc caagcaacaa ggtaattgcy tgccattcag cactgcacca gagcagacaa 180

cctatttgag gaaaaacagt gaaatccacc ttcctcttca cactgagccc tctctgattc 240
ctccgtggtg tgatgtgatg ctggccacgt ttccaaacgg cagctccact ggggtcccctt 300

<210> 257
<211> 300
<212> DNA
<213> Homo sapiens ribosomal protein S5

<400> 257
cgccgagtga cagagacgct caggctgtgt tctcaggatg accgagtggg agacagcagc 60
accagcgggtg gcagagaccc cagacatcaa gctctttggg aagtggagca ccgatgatgt 120
gcagatcaat gacatttccc tgcaggatta cattgcagtg aaggagaagt atgccaagta 180
cctccctcac agtgcagggc ggtatgccgc aaacgctttc cgcaaagctc agtgtcccat 240
tgtggagcgc ctactaact ccatgatgat gcacggccgc aacaacggca agaagctcat 300

<210> 258
<211> 300
<212> DNA
<213> Homo sapiens diaphorase

<400> 258
tctatacaaa ttttcagaag gttattttct ttatcattgc taaactgatg acttaccatg 60
ggatggggtc cagtcccatg accttggggg acaattgtaa acctagagtt ttatcaactt 120
tggtgaacag ttttggcata atagtcaatt tctacttctg gaagtcattc cattccactg 180
ttggtattat ataattcaag gagaatatga taaaacactg ccctcttctg gtgcattgaa 240
agaagagatg agaaatgatg aaaagggtgc ctgaaaaatg ggagacagcc tcttacttgc 300

<210> 259
<211> 300
<212> DNA
<213> Human protocadherin

<400> 259
agtctcttgg gatcccctaa ccagagcctt ttgccatag ggctgcacac tgggtcaaac 60
agtactgccc gtccagtcca agacacagat tcacccaggc agactctcac ggtcttgatc 120
aaagacaatg gggagccttc gctctccacc actgctaccc tcaactgtgtc agtaaccgag 180
gactctcctg aagcccagag cgagttcccc tctggctctg cccccggga gcagaaaaaa 240
aatctcacct tttatctact tctttcccta atcctgggtt ctgtgggggt tgtgggtcaca 300

<210> 260

<211> 80
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide for making of pIC62.

 <400> 260
 catgtacatc acagtagtcg ttcacagggt tttccggcca taatggcctt tcctgtgtgt 60
 gtgctacagc tagtcagtca 80

 <210> 261
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as
 ICAN2."nucleotides 19 to 20 are ribonucleotides-other nucleotides
 are deoxyribonucleotides."

 <400> 261
 actgactagc tgtagcacac 20

 <210> 262
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed chimeric oligonucleotide primer designated as
 ICAN6."nucleotides 19 to 20 are ribonucleotides-other nucleotides
 are deoxyribonucleotides."

 <400> 262
 acatcacagt agtcgttcac 20

 <210> 263
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer designated as ICAN2 DNA."

 <400> 263
 actgactagc tgtagcacac 20

 <210> 264
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as ICAN6 DNA.

 <400> 264
 acatcacagt agtcgttcac 20

 <210> 265
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of ribosomal
 protein S18-encoding sequence from mouse.

 <400> 265
 gtctctagtg atccctgaga agt 23

 <210> 266
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of ribosomal
 protein S18-encoding sequence from mouse.

 <400> 266
 tggatacacc cacagttcgg ccc 23

 <210> 267
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 transferrin receptor (TFR)-encoding sequence from mouse.

 <400> 267
 ccgcgctccg acaagtagat gga 23

 <210> 268
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 transferrin receptor (TFR)-encoding sequence from mouse.

 <400> 268
 ccaaagagtg caaggtctgc ctc 23

<210> 269
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of stromal
 cell derived factor 4 (Sdf4)-encoding sequence from mouse.

 <400> 269
 tctgatggat gcaaccgcta gac 23

 <210> 270
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of stromal
 cell derived factor 4 (Sdf4)-encoding sequence from mouse.

 <400> 270
 gaactcttca tgcacgttgc ggg 23

 <210> 271
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 cytoplasmic beta-actin encoding sequence from mouse.

 <400> 271
 tgatgggtggg aatgggtcag aag 23

 <210> 272
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed oligonucleotide primer to amplify a portion of
 cytoplasmic beta-actin encoding sequence from mouse.

 <400> 272
 agaagcactt gcggtgcacg atg 23

 <210> 273
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of ornithine decarboxylase-encoding sequence from mouse.

<400> 273
 gatgaaagtc gccagagcac atc 23

<210> 274
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of ornithine decarboxylase-encoding sequence from mouse.

<400> 274
 ttgatacctag cagaagcaca ggc 23

<210> 275
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of hypoxanthine guanine phosphoribosyl transferase (HPRT)-encoding sequence from mouse.

<400> 275
 ggacaggact gaaagacttg ctc 23

<210> 276
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of hypoxanthine guanine phosphoribosyl transferase (HPRT)-encoding sequence from mouse.

<400> 276
 gtctggcctg tatccaacac ttc 23

<210> 277
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer to amplify a portion of tyrosine 3-monooxygenase encoding sequence from mouse.

<400> 277
atgagctggt gcagaaggcc aag 23

<210> 278
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer to amplify a portion of tyrosine
3-monooxygenase encoding sequence from mouse.

<400> 278
ttccctctct totcctgctt ctg 23

<210> 279
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as MCS-F.

<400> 279
ccattcaggc tgcgcaatgt t 21

<210> 280
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Designed oligonucleotide primer designated as MCS-R

<400> 280
tggcacgaca ggtttcccga ct 22

<210> 281
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Designed chimeric oligonucleotide primer designated as MF2N3(24).
"nucleotides 22 to 24 are ribonucleotides-other nucleotides are
deoxyribonucleotides."

<400> 281
gctgcaaggc gattaagttg ggua 24

<210> 282
<211> 24
<212> DNA

<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as MR1N3(24).
"nucleotides 22 to 24 are ribonucleotides-other nucleotides are
deoxyribonucleotides."

<400> 282

ctttatgctt ccggctcgta tguu

24

<210> 283

<211> 16

<212> DNA

<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as MTIS2F-16
to amplify a portion of Mycobacterium tuberculosis
DNA."nucleotides 14 to 16 are ribonucleotides-other nucleotides
are deoxyribonucleotides."

<400> 283

tcgtccagcg ccgcuu

16

<210> 284

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Designed chimeric oligonucleotide primer designated as MTIS2R-ACC
to amplify a portion of Mycobacterium tuberculosis
DNA."nucleotides 18 to 20 are ribonucleotides-other nucleotides
are deoxyribonucleotides."

<400> 284

caaaggccac gtaggcgaac

20

<210> 285

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Designed oligonucleotide primer designated as MTIS-PCR-F-2 to
amplify a portion of Mycobacterium tuberculosis DNA.

<400> 285

cgaccgcatc aaccgggagc

20

<210> 286

<211> 20

<212> DNA

<213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as MTIS-PCR-R-2 to
 amplify a portion of Mycobacterium tuberculosis DNA.

<400> 286
 cccaggatcc tgcgagcgta 20

<210> 287
 <211> 45
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as SP6-HCV-F to
 amplify a portion of HCV.

<400> 287
 ccatttaggt gacactatag aatactgatg ggggcgacac tccac 45

<210> 288
 <211> 45
 <212> DNA
 <213> Artificial

<220>
 <223> Designed oligonucleotide primer designated as SP6-HCV-R to
 amplify a portion of HCV

<400> 288
 agctctaata cgactcacta tagggctcgca agcaccctat caggc 45

<210> 289
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as HCV-A S to
 amplify a portion of HCV. "nucleotides 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides."

<400> 289
 gggtcctttc ttggatcaac 20

<210> 290
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed chimeric oligonucleotide primer designated as HCV-A A to
 amplify a portion of HCV. "nucleotides 18 to 20 are
 ribonucleotides-other nucleotides are deoxyribonucleotides."

<400> 290
gaccaaacac tactcggcua

20